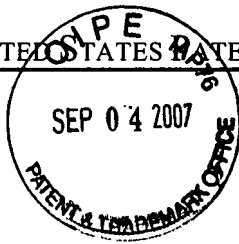




UNITED STATES PATENT AND TRADEMARK OFFICE



UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,302	10/22/2003	Douglas M. Dillon	PD-N94026K	2255
20991 7590 08/23/2007 THE DIRECTV GROUP INC PATENT DOCKET ADMINISTRATION RE/R11/A109 P O BOX 956 EL SEGUNDO, CA 90245-0956			EXAMINER AVELLINO, JOSEPH E	
			ART UNIT 2143	PAPER NUMBER
			MAIL DATE 08/23/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Supplemental
Notice of Allowability

SEP 04 2007

Application No.

10/691,302

Examiner

Joseph E. Avellino

Applicant(s)

DILLON, DOUGLAS M.

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment dated 4/23/07.
2. ☒ The allowed claim(s) is/are 53-61.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date herewith.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Please amend the claims as follows:

53. (Currently Amended) An apparatus comprising:

a protocol stack comprising an application layer, a network layer, and a physical layer, wherein said physical layer comprises a hardware interface between said apparatus and a network,

wherein network-level tunnelling of a packet from said network layer, the tunnelling creating a packet having a plurality of network layer source addresses and a plurality of network layer destination addresses, takes place in said apparatus below said network layer but above said physical layer,

wherein a driver operating in said apparatus below said ~~IP~~ network layer but above said physical layer effects the network-level tunnelling, and

wherein said driver is configured to generate a reply to an ARP packet received from the network layer of said apparatus.

54. (Currently Amended) An apparatus according to Claim 53, wherein said network layer is an IP layer,

wherein the plurality of network layer source addresses are a ~~respectively~~ respective plurality of IP source addresses,

wherein the plurality of network layer destination addresses are a ~~respectively~~ respective plurality of IP destination addresses,

wherein said driver presents to said IP layer an ethernet driver interface, and

wherein said driver removes an ethernet header and an ethernet checksum from a packet received from said IP layer.

Please replace the Abstract with the following:

An apparatus including a protocol stack, the protocol stack including an application layer, a network layer, and a physical layer, wherein the physical layer comprises a hardware interface between the apparatus and a network, wherein network-level tunnelling of a packet from the network layer, the tunnelling creating a packet having a plurality of network layer source addresses and a plurality of network layer destination addresses, takes place in the apparatus below the network layer but above the physical layer, wherein a driver operating in the apparatus below the network layer but above the physical layer effects the network-level tunnelling, and wherein the driver is configured to generate a reply to an ARP packet received from the network layer of the apparatus.

Oath/Declaration

2. In light of the Interview Summary with Mr. Spivak, a new Oath/Declaration is not required under MPEP 602.05a. The previous requirement was in error.

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: The prior art of record does not provide for an apparatus which provides IP tunneling by a driver operating on a layer below a network layer and above a hardware layer which also responds to ARP requests. Although the response to ARP requests is well known to be done with an Ethernet driver see RFC 826, one of ordinary skill in the art at the time the invention was made would not find it obvious to do IP-within-IP encapsulation within this Ethernet driver. As discussed in Ioannidis, the IP encapsulation is conducted on the network layer (p.237, col. 2; p.239, section 2.5 'The Network Layer' conducts the IPIP encapsulation). The encapsulation conducted by the driver removes the Ethernet header, adding an IP header wherein the packet has both the tunneling IP header and the original IP header. The driver then recomputes the Ethernet checksum to coincide with the new IP header.

2. The closest prior art of record would be the Ioannidis reference and the newly cited Adams, Jr (USPN 5,444,782). Ioannidis does not provide that the IPIP encapsulation is done below the network layer as discussed above. Adams discusses

Art Unit: 2143

IP tunneling in a gateway, however the invention is done at the layer at which IP packets are sent (Adams: col. 4, lines 55-60), which would be the Network layer. One of ordinary skill in the art would not find it obvious to incorporate this into the data link layer of the OSI model since it would remove too much of the routing information needed for the distributed routing approach many networks use as described in Adams (col. 4, lines 55-56).

3. The claims satisfy the requirements under 35 USC 101 since the apparatus claim 53 recites the execution of the driver on an apparatus, which does not attempt to claim software, per se. Apparatus claim 55 recites a hardware interface, which as construed in the art, would require some form of hardware, therefore making the claim statutory.

4. For these reasons, in conjunction with the other limitations of the independent claims, puts this case in condition for allowance.

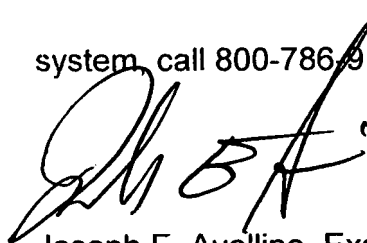
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

Art Unit: 2143

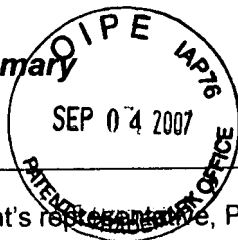
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'J. E. Avellino', is written over the printed name and date.

Joseph E. Avellino, Examiner
June 6, 2007

Interview Summary



Application No.

10/691,302

Applicant(s)

DILLON, DOUGLAS M.

Examiner

Joseph E. Avellino

Art Unit

2143

All participants (applicant, applicant's representative, PTO personnel):

(1) Joseph E. Avellino.

(3) _____

(2) Kevin Spivak.

(4) _____

Date of Interview: 04 August 2007.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.
If Yes, brief description: _____

Claim(s) discussed: _____

Identification of prior art discussed: _____

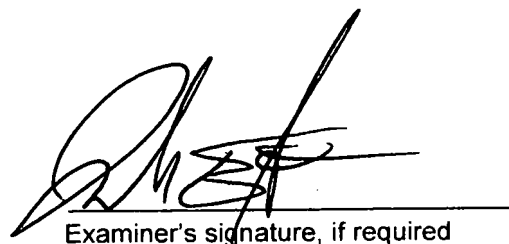
Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant's Representative inquired as to why a new declaration was required. Since case is a CON of parent, no new declaration is required. MPEP 602.05a. A new Notice of Allowance will be sent out indicating that no new declaration will be required.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

**OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300**

AN EQUAL OPPORTUNITY EMPLOYER

RECEIVED
U.S. AIR FORCE
MAY 19 1964

